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EXTENDING THE RANGE OF LITHOGRAPHIC SIMULATION INTEGRALS

Cross-Reference To Related Applications

The present application is related to commonly assigned U.S. patent application Serial No. 10/694,465 (~~Attorney Docket No. FIS920030108,~~ titled "INCORPORATION OF A PHASE MAP INTO FAST MODEL-BASED OPTICAL PROXIMITY CORRECTION SIMULATION KERNELS TO ACCOUNT FOR NEAR AND MID-RANGE FLARE"), U.S. patent application Serial No. 10/694,473 (~~Attorney Docket No. FIS920030109,~~ titled "IMPROVEMENT OF PERFORMANCE IN SECTOR-BASED OPC ENGINE UTILIZING EFFICIENT POLYGON PINNING METHOD AND SIMULTANEOUS COMPUTATION OF MULTIPLE SAMPLE POINTS"), U.S. patent application Serial No. 10/694,339 (~~Attorney Docket No. FIS920030110,~~ titled "RENESTING INTERACTION MAP INTO DESIGN FOR EFFICIENT LONG RANGE CALCULATIONS"), and U.S. patent application Serial No. 10/694,299 (~~Attorney Docket No. FIS920030262,~~ titled "SIMULTANEOUS COMPUTATION OF MULTIPLE POINTS ON ONE OR MULTIPLE CUT LINES"), filed on even date herewith, which are hereby incorporated by reference herein in their entirety.

Background Of The Invention

1. Field of the Invention

This invention relates generally to the field of optical microlithography, and particularly to the use of triangle convolution to a sector-based OPC engine. More particularly, the invention relates to the use of triangle convolution on unbounded sectors, which inherently regularize the convolution of an intermediate-range, long-range, or infinitely extending kernel without spatially truncating the kernel, nor requiring excessive ROI size.

2. Description of Related Art

The optical microlithography process in semiconductor fabrication, also known as the photolithography process, consists of duplicating desired circuit patterns as best as possible onto a semiconductor wafer. The desired circuit patterns are typically represented